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| 1 | US 20050193047 A1 | 20050901 | 113 | Method for synchronizing symbol timing | 708/300 |
| 2 | US 20050186933 A1 | 20050825 | 198 | Channel equalization system and method | 455/296 |
| 3 | US 20040252229 A1 | 20041216 | 33 | Method and apparatus for providing carrier synchronization in digital broadcast and interactive systems | 348/385.1 |
| 4 | US 20040246891 A1 | 20041209 | 91 | Air interface frame formatting | 370/215 |
| 5 | US 20040213360 A1 | 20041028 | 23 | Deferred decorrelating decision-feedback detector for supersaturated communications | 375/340 |
| 6 | US 20040203397 A1 | 20041014 | 25 | Signal-to-noise ratio estimation of CDMA signals | 455/63.1 |
| 7 | US 20040161022 A1 | 20040819 | 16 | Efficient back-end channel matched filter (CMF) | 375/152 |
| 8 | US 20040081205 A1 | 20040429 | 52 | Maximum likelihood synchronization for a communications system using a pilot symbol | 370/503 |
| 9 | US 20040071234 A1 | 20040415 | 16 | High rate receiver | 375/341 |
| 10 | US 20040071104 A1 | 20040415 | 57 | Multi-mode method and apparatus for performing digital modulation and demodulation | 370/320 |
| 11 | US 20040037202 A1 | 20040226 | 30 | Multichannel digital recording system with multi-user detection | 369/94 |
| 12 | US 20040009759 A1 | 20040115 | 23 | Method and apparatus for securely enabling a radio communication unit from standby mode | 455/258 |
| 13 | US 20030185286 A1 | 20031002 | 28 | Matched filter-based handoff method and apparatus | 375/152 |
| 14 | US 20030118081 A1 | 20030626 | 69 | Programmable modem apparatus for transmitting and receiving digital data, design method and use method for the modem | 375/130 |

| | Current XRef | Inventor |
|----|---------------------------------|------------------------------|
| 1 | | Fu, Dengwei et al. |
| 2 | 375/348; 455/63.1 | Trans, Francois |
| 3 | 348/388. 1; 725/135 | Jiang, Yimin et al. |
| 4 | 370/326; 370/458 | Kay, Stanley E. et al. |
| 5 | | McElwain, Thomas P. |
| 6 | 455/452. 1; 455/67.1 1 | Yoon, Young C. et al. |
| 7 | | Glazko, Serguei A. et al. |
| 8 | | Coulson, Alan James |
| 9 | | Li, Wenzhen |
| 10 | 370/208; 370/338; 370/342 | Boesel, Robert W. et al. |
| 11 | 369/95 | Brommer, Karl D. et al. |
| 12 | 455/255; 455/313 | Mayor, Michael A. et al. |
| 13 | | Yuen, Elmer |
| 14 | | Philips, Lieven et al. |

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| 15 | US 20030086515 A1 | 20030508 | 196 | Channel adaptive equalization precoding system and method | 375/346 |
| 16 | US 20030058929 A1 | 20030327 | 22 | ADAPTIVE WIRELESS COMMUNICATION RECEIVER | 375/150 |
| 17 | US 20030031275 A1 | 20030213 | 30 | Robust burst detection and acquisition system and method | 375/326 |
| 18 | US 20030021365 A1 | 20030130 | 30 | Robust burst detection and acquisition system and method | 375/343 |
| 19 | US 20030016770 A1 | 20030123 | 195 | Channel equalization system and method | 375/346 |
| 20 | US 20020181633 A1 | 20021205 | 121 | Means and method for a synchronous network communications system | 375/354 |
| 21 | US 20020122505 A1 | 20020905 | 17 | Frequency and phase estimation for MPSK signals | 375/329 |
| 22 | US 20020067783 A1 | 20020606 | 8 | Apparatus for estimating phase information using matched filter in communication system and method thereof | 375/343 |
| 23 | US 20020067757 A1 | 20020606 | 67 | Programmable modem apparatus for transmitting and receiving digital data, design method and use method for the modem | 375/130 |
| 24 | US 20010053175 A1 | 20011220 | 24 | Ultra-wideband communications system | 375/130 |
| 25 | US 20010038674 A1 | 20011108 | 110 | MEANS AND METHOD FOR A SYNCHRONOUS NETWORK COMMUNICATIONS SYSTEM | 375/355 |
| 26 | US 6968021 B1 | 20051122 | 22 | Synchronization method and apparatus for modems based on jointly iterative turbo demodulation and decoding | 375/340 |

| | Current XRef | Inventor |
|-----------|---|-----------------------------|
| 15 | | Trans, Francois et al. |
| 16 | 375/152 | COX, EARL C. et al. |
| 17 | | Min, Jonathan S. et al. |
| 18 | 375/232 | Min, Jonathan S. et al. |
| 19 | | Trans, Francois et al. |
| 20 | | Trans, Francois |
| 21 | | Avidor, Dan et al. |
| 22 | | Sung, Sang Hun |
| 23 | | Philips, Lieven et al. |
| 24 | 375/142; 375/256 | Hoctor, Ralph Thomas et al. |
| 25 | 370/503; 375/371 | TRANS, FRANCOIS |
| 26 | 375/265; 375/324; 375/343; 375/371; 714/799 | White; Steven L. et al. |

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| 27 | US 6952440 B1 | 20051004 | 46 | Signal detector employing a Doppler phase correction system | 375/150 |
| 28 | US 6931055 B1 | 20050816 | 45 | Signal detector employing a doppler phase correction system | 375/150 |
| 29 | US 6904110 B2 | 20050607 | 183 | Channel equalization system and method | 375/350 |
| 30 | US 6904079 B2 | 20050607 | 14 | Access channel structure for wireless communication system | 375/145 |
| 31 | US 6898233 B2 | 20050524 | 60 | Programmable modem apparatus for transmitting and receiving digital data, design method and use method for the modem | 375/130 |
| 32 | US 6879627 B1 | 20050412 | 30 | Variable rate continuous mode satellite modem | 375/222 |
| 33 | US 6874006 B1 | 20050329 | 108 | Apparatus and method for rectangular-to-polar conversion | 708/442 |

| | Current XRef | Inventor |
|-----------|---|-------------------------------|
| 27 | 375/142; 375/143; 375/152; 375/343; 375/346 | Underbrink; Paul A. |
| 28 | 375/142; 375/143; 375/152; 375/343; 375/346 | Underbrink; Paul A. et al. |
| 29 | 375/229 | Trans; Francois et al. |
| 30 | 370/491; 370/500; 370/510; 370/514; 375/149; 375/364 | Hoffmann; John E. et al. |
| 31 | 375/146; 375/222 | Philips; Lieven et al. |
| 32 | | Davidson; Jeffrey et al. |
| 33 | | Fu; Dengwei et al. |

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| 34 | US 6850557 B1 | 20050201 | 33 | Signal detector and method employing a coherent accumulation system to correlate non-uniform and disjoint sample segments | 375/150 |
| 35 | US 6836515 B1 | 20041228 | 88 | Multi-modulation radio communications | 375/260 |
| 36 | US 6826140 B2 | 20041130 | 33 | Multichannel digital recording system with multi-user detection | 369/94 |
| 37 | US 6810087 B2 | 20041026 | 25 | Ultra-wideband communications system | 375/259 |
| 38 | US 6778613 B2 | 20040817 | 15 | Frequency and phase estimation for MPSK signals | 375/329 |
| 39 | US 6772181 B1 | 20040803 | 111 | Apparatus and method for trigonometric interpolation | 708/313 |
| 40 | US 6697345 B1 | 20040224 | 85 | Multi-transport mode radio communications having synchronous and asynchronous transport mode capability | 370/330 |
| 41 | US 6693953 B2 | 20040217 | 18 | Adaptive wireless communication receiver | 375/141 |

| | Current XRef | Inventor |
|-----------|---|----------------------------------|
| 34 | 342/378; 455/12.1; 701/213 | Gronemeyer; Steven A. |
| 35 | 375/261; 375/269 | Kay; Stanley E. et al. |
| 36 | 369/124. 02; 369/124. 04; 369/47.1 9; 369/59.2 2 | Brommer; Karl D. et al. |
| 37 | 332/185; 380/33; 380/35 | Hector; Ralph Thomas et al. |
| 38 | 329/304; 375/344 | Avidor; Dan et al. |
| 39 | 708/290 | Fu; Dengwei et al. |
| 40 | 370/337; 370/466; 455/562. 1 | Corrigan, III; John E. et al. |
| 41 | 370/332; 455/13.4; 455/226. 3; 455/67.1 3 | Cox; Earl C. et al. |

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| 42 | US 6650649 B1 | 20031118 | 86 | Extension interface units in a communication system | 370/402 |
| 43 | US 6597727 B2 | 20030722 | 62 | Programmable modem apparatus for transmitting and receiving digital data, design method and use method for the modem | 375/147 |
| 44 | US 6560303 B1 | 20030506 | 28 | Joint frame, carrier and clock synchronization scheme | 375/365 |
| 45 | US 6515981 B1 | 20030204 | 22 | Packet-switched spread-spectrum system | 370/342 |
| 46 | US 6477208 B1 | 20021105 | 43 | Composite trellis system and method | 375/265 |
| 47 | US 6421399 B1 | 20020716 | 15 | Frequency and phase estimation for MPSK signals | 375/329 |
| 48 | US 6393049 B1 | 20020521 | 26 | Two-stage synchronization of spread-spectrum signals | 375/142 |
| 49 | US 6377640 B2 | 20020423 | 117 | Means and method for a synchronous network communications system | 375/354 |
| 50 | US 6324207 B1 | 20011127 | 31 | Handoff with closed-loop power control | 375/141 |
| 51 | US 6317452 B1 | 20011113 | 66 | Method and apparatus for wireless spread spectrum communication with preamble sounding gap | 375/130 |

| | Current XRef | Inventor |
|-----------|---|--------------------------------|
| 42 | 370/463; 710/300 | Muhammad; Tariq et al. |
| 43 | 375/222; 375/316 | Philips; Lieven et al. |
| 44 | 370/509; 370/514 | Fan; Yigang et al. |
| 45 | 370/335 | Schilling; Donald L. et al. |
| 46 | 714/786; 714/796 | Huff; Ronald J |
| 47 | 375/260; 375/343 | Avidor; Dan et al. |
| 48 | 375/143; 375/144; 375/145 | Davidovici; Sorin et al. |
| 49 | 370/286; 370/289 | Trans; Francois |
| 50 | 370/332; 375/225; 455/436; 455/437; 455/522 | Kanterakis; Emmanuel et al. |
| 51 | 375/141; 375/145 | Durrant; Randolph L. et al. |

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| 52 | US 6307877 B1 | 20011023 | 61 | Programmable modem apparatus for transmitting and receiving digital data, design method and use method for the modem | 375/130 |
| 53 | US 6304592 B1 | 20011016 | 28 | Coherent detection using matched filter enhanced spread spectrum demodulation | 375/152 |
| 54 | US 6298098 B1 | 20011002 | 11 | Burst demodulator for use in high speed bidirectional digital cable transmission system | 375/317 |
| 55 | US 6282228 B1 | 20010828 | 80 | Spread spectrum codes for use in communication | 375/140 |
| 56 | US 6233290 B1 | 20010515 | 103 | Method for noncoherent coded modulation | 375/341 |
| 57 | US 6215811 B1 | 20010410 | 29 | Store and dump, spread-spectrum handoff | 375/143 |
| 58 | US 6212566 B1 | 20010403 | 60 | Interprocess communication protocol system modem | 709/230 |
| 59 | US 6177835 B1 | 20010123 | 18 | Method and apparatus for high data rate demodulation | 329/304 |

| | Current XRef | Inventor |
|-----------|---|--------------------------------|
| 52 | 375/222 | Philips; Lieven et al. |
| 53 | | Davidovici; Sorin et al. |
| 54 | 375/340 | Krasner; Norman F. et al. |
| 55 | 327/164; 375/141 | Monroe; Robert |
| 56 | 375/262; 375/265; 714/792; 714/796 | Raphaeli; Dan |
| 57 | 370/412; 375/142; 375/150; 375/152; 455/436 | Yuen; Elmer |
| 58 | 709/200; 709/231; 709/237; 712/1 | Vanhoof; Jan et al. |
| 59 | 329/306; 375/324 | Grebowsky; Gerald J. et al. |

| | Document ID | Issue Date | Page s | Title | Current OR |
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| 60 | US 6154483 A | 20001128 | 29 | Coherent detection using matched filter enhanced spread spectrum demodulation | 375/130 |
| 61 | US 6061406 A | 20000509 | 8 | Multichannel time shared demodulator and method | 375/260 |
| 62 | US 6061359 A | 20000509 | 23 | Increased-capacity, packet spread-spectrum system and method | 370/441 |
| 63 | US 5999562 A | 19991207 | 27 | Intelligent power management for a programmable matched filter | 375/152 |
| 64 | US 5974091 A | 19991026 | 41 | Composite trellis system and method | 375/265 |
| 65 | US 5963586 A | 19991005 | 68 | Method and apparatus for parallel noncoherent correlation of a spread spectrum signal | 375/142 |
| 66 | US 5960040 A | 19990928 | 32 | Communication signal processors and methods | 375/279 |
| 67 | US 5953370 A | 19990914 | 66 | Apparatus for receiving and correlating a spread spectrum signal | 375/150 |

| | Current XRef | Inventor |
|-----------|---|----------------------------------|
| 60 | 370/336; 375/376; 708/314 | Davidovici; Sorin et al. |
| 61 | 375/340; 375/347; 375/349 | Carson; Lansing McLain et al. |
| 62 | 375/130 | Schilling; Donald L. et al. |
| 63 | 375/343; 455/231; 455/343. 2 | Hennedy; Michael et al. |
| 64 | 714/786; 714/796 | Huff; Ronald J |
| 65 | 375/274; 375/336; 375/343 | Durrant; Randolph L. et al. |
| 66 | 329/304; 332/103; 375/140; 375/308; 375/329 | Cai; Khiem V. et al. |
| 67 | 375/140 | Durrant; Randolph L. et al. |

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| 68 | US 5881100 A | 19990309 | 66 | Method and apparatus for coherent correlation of a spread spectrum signal | 375/150 |
| 69 | US 5872810 A | 19990216 | 61 | Programmable modem apparatus for transmitting and receiving digital data, design method and use method for said modem | 375/222 |
| 70 | US 5872808 A | 19990216 | 23 | Apparatus and method for synchronization of direct sequence CDMA signals | 375/152 |
| 71 | US 5864578 A | 19990126 | 27 | Matched filter-based handoff method and apparatus | 375/143 |
| 72 | US 5856998 A | 19990105 | 67 | Method and apparatus for correlating a continuous phase modulated spread spectrum signal | 375/150 |
| 73 | US 5844951 A | 19981201 | 33 | Method and apparatus for simultaneous beamforming and equalization | 375/347 |
| 74 | US 5832028 A | 19981103 | 67 | Method and apparatus for coherent serial correlation of a spread spectrum signal | 375/150 |
| 75 | US 5764691 A | 19980609 | 27 | Intelligent power management for a programmable matched filter | 375/152 |
| 76 | US 5757847 A | 19980526 | 66 | Method and apparatus for decoding a phase encoded signal | 375/150 |
| 77 | US 5754585 A | 19980519 | 67 | Method and apparatus for serial noncoherent correlation of a spread spectrum signal | 375/150 |

| | Current XRef | Inventor |
|-----------|---|--------------------------------|
| 68 | 375/274; 375/336; 375/343 | Durrant; Randolph L. et al. |
| 69 | 375/130 | Philips; Lieven et al. |
| 70 | | Davidovici; Sorin et al. |
| 71 | 370/331; 370/412; 375/144; 455/436; 455/452. 2 | Yuen; Elmer |
| 72 | 375/336; 375/343 | Durrant; Randolph L. et al. |
| 73 | 375/233; 455/137 | Proakis; John G. et al. |
| 74 | 375/367 | Durrant; Randolph L. et al. |
| 75 | 375/343; 455/231; 455/343. 2 | Hennedy; Michael et al. |
| 76 | 375/331; 375/343 | Durrant; Randolph L. et al. |
| 77 | 375/336 | Durrant; Randolph L. et al. |

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| 78 | US 5754584 A | 19980519 | 67 | Non-coherent spread-spectrum continuous-phase modulation communication system | 375/142 |
| 79 | US 5706314 A | 19980106 | 10 | Joint maximum likelihood channel and timing error estimation | 375/340 |
| 80 | US 5692007 A | 19971125 | 67 | Method and apparatus for differential phase encoding and decoding in spread-spectrum communication systems with continuous-phase modulation | 375/142 |
| 81 | US 5680414 A | 19971021 | 67 | Synchronization apparatus and method for spread spectrum receiver | 375/150 |
| 82 | US 5659574 A | 19970819 | 67 | Multi-bit correlation of continuous phase modulated signals | 375/150 |
| 83 | US 5629956 A | 19970513 | 67 | Method and apparatus for reception and noncoherent serial correlation of a continuous phase modulated signal | 375/150 |
| 84 | US 5627856 A | 19970506 | 67 | Method and apparatus for receiving and despreading a continuous phase-modulated spread spectrum signal using self-synchronizing correlators | 375/150 |

| | Current XRef | Inventor |
|-----------|---|--------------------------------|
| 78 | 375/274 | Durrant; Randolph L. et al. |
| 79 | 348/537; 370/514; 370/520; 375/344; 375/346; 375/355; 375/368 | Davis; Mark et al. |
| 80 | 375/146; 375/150; 375/273; 375/283 | Durrant; Randolph L. et al. |
| 81 | 370/515; 375/149; 375/152; 375/367 | Durrant; Randolph L. et al. |
| 82 | 375/336 | Durrant; Randolph L. et al. |
| 83 | 375/336; 375/343 | Durrant; Randolph L. et al. |
| 84 | 375/343 | Durrant; Randolph L. et al. |

| | Document ID | Issue Date | Page s | Title | Current OR |
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| 85 | US 5610940 A | 19970311 | 67 | Method and apparatus for noncoherent reception and correlation of a continuous phase modulated signal | 375/150 |
| 86 | US 5425058 A | 19950613 | 11 | MSK phase acquisition and tracking method | 375/336 |
| 87 | US 5303263 A | 19940412 | 30 | Transmission channel characteristic equalizer | 375/229 |
| 88 | US 5283780 A | 19940201 | 14 | Digital audio broadcasting system | 370/312 |
| 89 | US 5272446 A | 19931221 | 23 | Digitally implemented fast frequency estimator/demodulator for low bit rate maritime and mobile data communications without the use of an acquisition preamble | 329/304 |

| | Current XRef | Inventor |
|-----------|--|--------------------------------|
| 85 | 375/274; 375/343 | Durrant; Randolph L. et al. |
| 86 | 329/300; 375/274; 375/305 | Mui; Shou Y. |
| 87 | 375/341; 714/795 | Shoji; Yasuo et al. |
| 88 | 370/314; 370/436; 375/344; 381/2; 455/257; 455/260; 455/65; 714/786 | Schuchman; Leonard et al. |
| 89 | 329/310; 375/324; 375/329; 708/311; 708/404; 708/405 | Chalmers; Harvey et al. |

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| 90 | US 3795865 A | 19740305 | 26 | AUTOMATED REAL TIME EQUALIZED MODEM | 375/232 |

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|----|--|-------------------------|
| 90 | 178/69R; 327/100; 333/18; 333/28R; 375/270; 375/286; 375/353 | Armstrong; Thomas R. |